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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/714,205	11/14/2003	Kevin P. Dockery	85915KNM	2659

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EXAMINER

ASINOVSKY, OLGA

ART UNIT

PAPER NUMBER

1711

DATE MAILED: 01/19/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/714,205	DOCKERY ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Olga Asinovsky	1711	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 14 November 2003.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-27 is/are pending in the application.
- 4a) Of the above claim(s) 1-16 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 17-24 and 26 is/are rejected.
- 7) ☒ Claim(s) 25 and 27 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>11/14/2003</u> . | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Election/Restrictions***

1. Applicant's election with traverse of October 31, 2005 in the reply filed on 10/03/2005 is acknowledged. The traversal is on the ground(s) that the search of Group II would include the subject matter of Group I, because there is a significant overlap being an element having a surface to which are attached a plurality of piperazine functional groups covered by Group I, claim 1 and Group II, claim 20. This is not found persuasive because Group II requires a crosslinking compound A-L-B having at least one vinylsulfone functional group.

The requirement is still deemed proper and is therefore made FINAL.

### ***Double Patenting***

2. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

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3. Claims 17-24 and 26 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-23 of U.S. Patent No. 6,815,078 in view of Lazzari et al. U.S. Patent 6,642,383.

4. Although the conflicting claims are not identical, they are not patentably distinct from each other because claims 1-23 of Patent 6,815,078 (now Patent'078) gelatin-based substrate having at least one surface, a polymer scaffold affixed to the gelatin surface; and a trifunctional compound A-L-B. A polymer forming the polymer scaffold is polyvinylamine or polypropyleneimine, or poly(N-aminopropyl methacrylamide) or poly(n-vinylimidazole), claim 13 of Patent'078. A trifunctional compound A-L-B (claims 1-2 and 14 of Patent'078) is readable for being a crosslinking compound in the present claims, wherein A is a functional group capable of interacting with the polymer scaffold.

5. The difference between the present claims and claims 1-23 of Patent'078 is the requirement in the present claims of a plurality of piperazine functional groups containing polymer wherein said piperazine functional group are capable of interacting with a functional group of A of said crosslinking compound A-L-B, and wherein said polymer having a plurality of piperazine functional group is attached to the surface of the claimed element.

Lazzari discloses a compound of formula I suitable for grafting and carrying an ethylenic double bond and having piperazine moiety, column 1, lines 5-67. This compound can be used as a stabilizer for natural polymers including gelatin, column 27, line 7.

It would have been obvious to one of ordinary skill in the art to substitute a polymer scaffold having amino moieties in the gelatin-based substrate in claims 1-23 of Patent

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'078 with a polymer having piperazine moiety in Lazzari invention for the purposes to increase stability of the gelatin and because both amino group and piperazine group have the same covalent linkage with a functional group of A in the crosslinking compound. The motivation is that a polymer having amino moiety can be substituted with a polymer having piperazine moiety, this is being within the skill of a worker in the art to provide stability of the gelatin coating on the surface to the desired level.

***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 17-24 and 26 rejected under 35 U.S.C. 103(a) as being unpatentable over Qiao et al U.S. Patent 6,815,078 in view of Lazzari et al U.S. Patent 6,642,383.

Qiao discloses a substrate having a surface coated with a gelatin, bonding a polymer scaffold to a surface of the gelatin, wherein the polymer in the scaffold is rich in reactive units capable of immobilizing proteins, column 2, lines 32-62. The polymer scaffold at the formula I at column 5, line 50 is a polymer affixed to the gelatin. Said polymer is produced by polymerization of alpha-beta-ethylenically unsaturated monomer, column 6, lines 40-42, and said polymer has also functional groups such as vinylpyridines, N-vinylpyrrolidone, column 6, lines 60-62. A gelatin coating comprises chemical functional

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A-L-B component having vinylsulfonyl or vinylsulfone precursor, column 3, lines 20-67; column 4, lines 1-42; column 8, lines 30-40. The polymer scaffold having amino functional group is readable for being a polymer in the present claims. The A-L-B component having vinylsulfonyl functional group is readable for being A-L-B crosslinking compound in the present claims.

8. The difference between the present claims and Qiao invention is the requirement in the present claims of a plurality of piperazine functional groups containing polymer wherein said piperazine functional group are capable of interacting with a functional group of A of said crosslinking compound A-L-B, and wherein said polymer having a plurality of piperazine functional group is attached to the surface of the claimed element.

Lazzari discloses a compound of formula I suitable for grafting and carrying an ethylenic double bond and having piperazine moiety, column 1, lines 5-67. This compound can be used as a stabilizer for natural polymers including gelatin, column 27, line 7.

It would have been obvious to one of ordinary skill in the art to substitute a polymer scaffold having amino moieties in the gelatin-based substrate in Qiao invention with a polymer having piperazine moiety in Lazzari invention for the purposes to control the stability of the gelatin and because both amino group and piperazine group have the same covalent linkage with a functional group of A in the crosslinking compound. The motivation is that a polymer having amino moiety can be substituted with a polymer having piperazine moiety, this is being within the skill of a worker in the art to provide

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desired stability of the gelatin coating on the surface and since both these functional moieties work within the same covalent linkage with other functional groups.

***Allowable Subject Matter***

9. Claims 25 and 27 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

None of the cited prior art discloses bis(vinylsulfonyl)methane crosslinking compound A-L-B and the piperazine polymer defined by Formula II in the present claim 25.

***Conclusion***

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. References have been considered.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Olga Asinovsky whose telephone number is 571-272-1066. The examiner can normally be reached on 9:00 to 5:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James Seidleck can be reached on 571-272-1078. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

*Q.A.*

January 10, 2005

Olga Asinovsky  
Examiner  
Art Unit 1711



**James J. Seidleck**  
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